

Amendments to the Claims

1. (Currently Amended) Apparatus for treatment of a ~~patient condition~~ skin, comprising:
an applicator having ~~a skin-contacting surface comprising~~ at least one
protuberance comprising a skin-contacting surface, and
at least one optical radiation source coupled to said applicator in a manner so as
to, when activated, deliver optical radiation ~~through~~ to said skin-contacting surface, and
~~to a patient's skin in contact with said surface~~
a total internal reflection mechanism to prevent at least a portion of the radiation
from passing through said skin-contacting surface unless in contact with skin.
2. (Currently Amended) Apparatus as claimed in claim 1 wherein said applicator is in the
form of a brush adapted to be moved over the ~~patient's~~ skin surface as radiation is applied
thereto.
3. (Cancelled)
4. (Original) Apparatus as claimed in claim 1 wherein said skin-contacting surface has at
least one protuberance selected from the group of projections and bristles extending
therefrom.
5. (Original) Apparatus as claimed in claim 1 wherein said protuberance is adapted to
apply a compressive force to the skin during use.
6. (Currently Amended) Apparatus as claimed in claim 1 wherein said radiation at the
~~patient's~~ skin surface is between approximately 1 mW/cm² and approximately 100
W/cm², the radiation depending at least on the condition being treated and the wavelength
of the radiation.
7. (Currently Amended) Apparatus as claimed in claim 6 wherein said radiation at the
~~patient's~~ skin surface is between 10 mW/cm² and 10 W/cm².

8. (Currently Amended) Apparatus as claimed in claim 1 wherein said at least one optical radiation source is an array of optical radiation sources, ~~each said source being mounted to deliver optical radiation through at least one corresponding protuberance.~~
9. (Original) Apparatus as claimed in claim 8 wherein each of the plurality of sources is mounted to deliver radiation through a corresponding protuberance.
10. (Currently Amended) Apparatus for treatment of skin, comprising:
an applicator having a skin-contacting surface comprising at least one protuberance, and
at least one optical radiation source coupled to said applicator in a manner so as to, when activated, deliver optical radiation through said skin-contacting surface to skin in contact with said surface, wherein said at least one optical radiation source is an array of optical radiation sources, each said source being mounted to deliver optical radiation through at least one corresponding protuberance. ~~Apparatus as claimed in claim 8~~ wherein a skin contacting end of each protuberance has total internal reflection for the radiation when not in contact with the patient's skin, but passes radiation to the patient's skin when in contact therewith.
11. (Original) Apparatus as claimed in claim 1 wherein said at least one optical radiation source is an array of semiconductor radiation-emitting elements.
12. (Original) Apparatus as claimed in claim 1 wherein the at least one optical radiation source is operable at different wavelengths to effect a desired treatment protocol.
13. (Original) Apparatus as claimed in claim 1 wherein the at least one optical radiation source is a continuous wave radiation source.
14. (Original) Apparatus as claimed in claim 1 further comprising a heat sink.

15. (Currently Amended) Apparatus for treatment of skin, comprising:

an applicator having a skin-contacting surface comprising at least one protuberance;

at least one optical radiation source coupled to said applicator in a manner so as to, when activated, deliver optical radiation through said skin-contacting surface to skin in contact with said surface;

~~Apparatus as claimed in claim 14 including~~

~~a handle for said apparatus which is adapted to be held by the an operator when the apparatus is in use; and, said~~

~~a heat sink sinking heat from said at least one radiation source to said handle, heat from said handle being sinked to said operator's hand.~~

16. (Currently Amended) Apparatus as claimed in claim 1 including a detector of contact between said applicator and the ~~patient's~~ skin, and controls operative in response to said detector for permitting radiation to be applied from said at least one source to the ~~patient's~~ skin.

17. (Currently Amended) Apparatus as claimed in claim 1 wherein said apparatus includes a mechanism for applying a substance to the ~~patient's~~ skin as the skin is being irradiated.

18. (Cancelled)

19. (Original) Apparatus as claimed in claim 1 wherein said at least one radiation source is part of said applicator.

20. (Original) Apparatus as claimed in claim 1 wherein said applicator is a hand-held unit.

21. (Original) Apparatus as claimed in claim 1 wherein said skin-contacting surface is formed of a plate having good thermal conducting properties, said at least one optical radiation source being mounted to said plate so that heat from said at least one source heats said plate, said heated plate thereby being adapted to heat a skin region during use.

22. (Original) Apparatus as claimed in claim 1 including a heat sink component in thermal contact with said at least one source, said component being adapted to be cooled prior to use of the apparatus.

23. (Original) Apparatus as claimed in claim 22 wherein said component undergoes a phase change when cooled, and returns to its initial phase when extracting heat from said at least one source.

24. – 55. (Cancelled)

56. (New) Apparatus as claimed in claim 1, wherein said portion of the radiation comprises substantially all of the radiation delivered to the skin-contacting surface.

57. (New) Apparatus as claimed in claim 8, wherein each of said sources is mounted to deliver optical radiation through at least one corresponding protuberance.

58. (New) Apparatus as claimed in claim 8, wherein said array of optical radiation sources comprises at least one source selected from the group consisting of light-emitting diodes, laser diodes, fiber lasers, fiber lasers with laser diode pumping, superluminescent diodes, vertical cavity surface emitting lasers, incandescent lamps, fluorescent lamps, micro halide lamps, low power lamps, wave-guide laser diodes, fluorescence solid-state light sources, or a combination thereof.

59. (New) Apparatus as claimed in claim 8, wherein said array of optical radiation sources comprises identical sources.

60. (New) Apparatus as claimed in claim 8, wherein said array of optical radiation sources comprises different sources.

61. (New) Apparatus for treatment of skin, comprising:

an applicator having a skin-contacting surface,

at least one optical radiation source coupled to said applicator in a manner so as to, when activated, deliver optical radiation to said skin-contacting surface, and

a total internal reflection mechanism coupled to said skin-contacting surface to prevent at least a portion of the radiation from passing through said skin-contacting surface unless in contact with skin.

62. (New) Apparatus as claimed in claim 61, wherein said portion of the radiation comprises substantially all of the radiation delivered to the skin-contacting surface.

63. (New) Apparatus as claimed in claim 61 wherein said at least one optical radiation source is an array of optical radiation sources.

64. (New) Apparatus as claimed in claim 63, wherein each of said sources is mounted to deliver optical radiation through at least one corresponding protuberance.

65. (New) Apparatus as claimed in claim 63, wherein said array of optical radiation sources comprises at least one source selected from the group consisting of light-emitting diodes, laser diodes, fiber lasers, fiber lasers with laser diode pumping, superluminescent diodes, vertical cavity surface emitting lasers, incandescent lamps, fluorescent lamps, micro halide lamps, low power lamps, wave- guide laser diodes, fluorescence solid-state light sources, or a combination thereof.

66. (New) Apparatus as claimed in claim 63, wherein said array of optical radiation sources comprises identical sources.

67. (New) Apparatus as claimed in claim 63, wherein said array of optical radiation sources comprises different sources.

68. (New) Apparatus for treatment of skin, comprising:

an applicator having a skin-contacting surface, and

at least one optical radiation source coupled to said applicator in a manner so as to, when activated, deliver optical radiation to said skin-contacting surface, wherein at least a portion of the radiation passes to the skin only when the surface contacts the skin.

69. (New) Apparatus as claimed in claim 68, wherein said portion of the radiation comprises substantially all of the radiation delivered to the skin-contacting surface.

70. (New) Apparatus as claimed in claim 68 wherein said at least one optical radiation source is an array of optical radiation sources.

71. (New) Apparatus as claimed in claim 70, wherein each of said sources is mounted to deliver optical radiation through at least one corresponding protuberance.

72. (New) Apparatus as claimed in claim 70, wherein said array of optical radiation sources comprises at least one source selected from the group consisting of light-emitting diodes, laser diodes, fiber lasers, fiber lasers with laser diode pumping, superluminescent diodes, vertical cavity surface emitting lasers, incandescent lamps, fluorescent lamps, micro halide lamps, low power lamps, wave- guide laser diodes, fluorescence solid-state light sources, or a combination thereof.

73. (New) Apparatus for treatment of skin, comprising:

an applicator having a skin-contacting surface comprising at least one protuberance;

at least one optical radiation source coupled to said applicator in a manner so as to, when activated, deliver optical radiation to said skin-contacting surface; and

a handle adapted to be held by an operator when the apparatus is in use, wherein the handle comprises a heat sink capable of removing heat from said at least one radiation source.